TIGGER Transit Investments for Greenhouse Gas and Energy Reduction

U.S. Department of Transportation
Federal Transit Administration


Courtesy of RRTA

Project name: Red Rose Facility Improvement

Transit agency: Red Rose Transit Authority (RRTA)

Location: Lancaster, Pennsylvania

TIGGER goal: Energy reduction

FTA region number: III

Award amount: $2,450,000

Congressional district: PA -16

Funding mechanism: Recovery Act (ARRA)

Red Rose Cuts Energy Use with Sustainable, Efficient Facility Renovation

The Red Rose Transit Authority (RRTA) used a $2.5 million TIGGER award to incorporate sustainable building design and efficiency improvements at their 30-year-old main operations facility in Lancaster, Pennsylvania.

RRTA is employing several technologies to reduce greenhouse gas emissions and improve energy efficiency as part of a facility expansion and complete renovation project.

The sustainable building design by CDM incorporates the U.S. Green Building Council's LEED certification guidelines for energy conservation, including geothermal heating, ventilation, and air conditioning; day-lighting features; photovoltaic rooftop panels; a green roof; waste oil burners; and upgraded energy-efficient electrical fixtures.

Solar Project

Vehicle Project

Facility Project

Geothermal Project

Red Rose Transit Authority (RRTA) is a regional transit authority, providing transit services throughout Lancaster County, Pennsylvania. RRTA has provided transit services for more than 35 years. Currently RRTA operates a fleet of 42 fixed-route buses on 17 routes, employing 100 full-time employees and carrying around 2 million passengers each year.

Courtesy of RRTA

(Clockwise) The new RRTA office addition, drilling of the geothermal well, and the new waste oil burner located next to the old oil heater.

After seven months, RRTA achieved a 43% reduction in electrical consumption by using day lighting, installing efficient fixtures, and placing 641 Sharp solar panels on the roof.

The agency also cut its annual heating oil use to zero, by burning the roughly 3,000 gallons of waste oil it generates each year and using a geothermal system for additional heating.

Impact:

By combining sustainable design, renewable energy, and energy efficiency technologies, RRTA cut its building energy consumption by 63%.

These combined improvements reduced RRTA's total energy consumption by 63%. At this rate, RRTA will cut its annual electrical consumption from 417,000 to 230,000 kWh and its annual fuel oil consumption from 7,700 gallons to zero.

Over the projected 30-year lifetime of these improvements, RRTA will save more than 5.6 million kWh of electricity and use 200,000 fewer gallons of heating oil.

About TIGGER

The Transit Investment for Greenhouse Gas and Energy Reduction (TIGGER) Program *was established in 2009 by the U.S. Department of Transportation's Federal Transit Administration (FTA). Designed to reduce energy use and greenhouse gas emissions in transit agencies around the country, the TIGGER Program made funds available for capital investments that would reduce greenhouse gas emissions or lower the energy use of public transportation systems. An initial $100 million in American Recovery and Reinvestment Act grants funded 43 competitively-selected transit projects. In 2010, the FTA provided an additional $75 million in grants to fund 27 new TIGGER projects. These 70 projects are employing a variety of technologies to meet the program goals, including solar installations, building efficiency improvements, wind technology, wayside energy storage for rail, and purchase of more efficient buses. In fiscal year 2011, FTA provided an additional $49.9 million to continue the program.*

For More Information

RRTA:
www.redrosetransit.com

FTA TIGGER:
www.fta.dot.gov/TIGGER